CLUTCHES

REPLACING WORN PAWL BRACKETS

1. GENERAL

1.01 This section covers the procedures for replacing worn pawl brackets on panel clutches.

1.02 The procedures covered herein apply to all vintages of panel clutches where the pawl is so worn that it snags or fails to engage the rack satisfactorily.

1.03 Before removing the clutch from the frame for making replacement of the parts of the apparatus covered herein, make the associated circuit busy in the approved manner.

2. LIST OF TOOLS AND MATERIALS

Code or Spec No.	Description
Tools	
485A	Smooth-jaw Pliers
R-1640	Center Punch
-	No. 31 (0.120-in. dia) Twist Drill
-	Hand Drill, North Bros. Mfg. Co No. 1446 (or equivalent)
-	4-oz Riveting Hammer
-	6-1/2-in. P-long-nose Pliers
-	4-in. Regular Screwdriver
Materials	
P-15A900	Pin
P-15A901	Sleeve
P-137810	Spring
P-170521 (2 reqd)	Washer
P-172405	Pawl Bracket
-	Piece of Bare Wire

3. PROCEDURES FOR REPLACING PAWL BRACKETS

3.01 Removal and Remounting Clutches: To perform the procedures covered herein remove the clutch from the frame in accordance with requirement and adjusting procedures for the type of clutch involved. After making the necessary substitution of parts, remount the clutch.

3.02 After making the replacement of the pawl bracket, the pawl shall meet the requirements as specified in the section covering this apparatus. Other parts whose adjustment may have been directly disturbed by the replacing operation shall be checked to the readjust requirements and an over-all operation check shall be made of the clutch before restoring the circuit to service.

Removing Pawl Bracket

3.03 Remove the retaining spring by removing the retaining spring mounting screws with the 4-inch regular screwdriver. On the later design retaining springs, the removal of the screws will also release the clamping plate.

3.04 Lay the clutch flat on a work bench. Mount the No. 31 drill tightly in the chuck of the hand drill. If the pawl pin is not provided with a countersunk hole, make a spot in the center of the pawl pin using the R-1640 center punch tapping it lightly with the riveting hammer. Position the drill in the spot or countersunk hole in the end of the pawl pin and drill to a depth of approximately 1/8 inch below the surface of the frame. Turn the clutch over and drill the other end of the pawl pin as outlined above. Remove the pawl bracket, prying it out if necessary. Remove the spring from the adjusting bracket using the P-long-nose pliers.

Installing Pawl Bracket (Fig. 1)

3.05 Attach a new P-137810 spring to a new P-172405 pawl bracket and secure it in place by bending the open loop of the spring in the hole in the bracket. Insert a P-15A901 sleeve through the holes in the pawl bracket so that the sleeve is approximately centered in the bracket.

3.06 Lay the clutch on its side on the bench so that the bearing holes in the frame project slightly beyond the bench. With the No. 485A pliers place the pawl bracket between the clutch frames, so that the pawl bracket is between the clutch retaining spring mounting lugs and the rack

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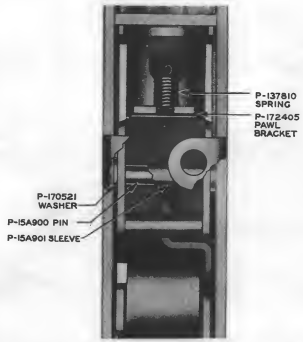

Fig. 1 - Pawl Bracket and Associated Parts

guide plate with the sleeve in the pawl bracket in a vertical position and the pawl tooth away from the magnet coils. Place a P-170521 washer on the inside of the frame over the bottom bearing hole. Insert the nonheaded end of the P-15A900 pin through the hole from underneath the frame until it just enters the washer. Grasp the pawl bracket with the No. 485A pliers at a point just below the tooth. Carefully move the pawl bracket over the washer taking care that the washer is not dislodged. In doing this, make sure that the pawl operating arm is in back of the roller on the pawl bracket. Insert the pin in the sleeve of the pawl bracket but not entirely through it. Grasp a second P-170521 washer with the No. 485A pliers and place it between the top of the pawl bracket and the frame. Center the washer over the pin in the pawl bracket using a piece of wire inserted through the bearing hole. Push the pin through the washer and frame. Place the clutch on a flat steel surface taking care that the pin does not drop out. Then using the R-1640 center punch and the 4-oz riveting hammer, rivet the projecting portion of the pin. Grasp the looped end of the spring with the P-long-nose pliers and insert it through the hole in the pawl spring lug. Secure it in place by bending the open loop in the spring around the bracket.

3.07 **Remount the retaining spring. If a clamping plate was provided, it will be helpful to hold the clamping plate in position by means of the P-long-nose pliers while assembling the retaining spring.**

3.08 **Mount the clutch in the frame and resolder the wires to the clutch terminals.**